ROCKS and MINERALS

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The official Journal of the Rocks and Minerals Association

CHIPS FROM THE QUARRY

Rocks and Minerals Endorsed by Prominent Geologist

Editor R & M:

Herewith please find my check for $6. to apply on my subscription account for ROCKS AND MINERALS.

Your magazine contains most interesting articles on mineral occurrences not only in the United States but all over the world. I eagerly await each issue. To any one who is interested in geology and mineral studies, ROCKS AND MINERALS keeps one abreast of new mineral discoveries and serves to recall to mind some of those rare types which otherwise would be forgotten. Even the advertisements command attention. The numerous minerals listed therein and their locations, if noted month by month, provides the reader with a good course in mineralogy, and where such minerals are found,—also the minerals themselves when you desire to purchase them.

M. H. Gidel,
Geological Dept.,
Anaconda Copper Mining Co.,
Butte, Mont.

July 5, 1944.

The Marines Have Landed Again!

Editor R & M:

Thank you very much for the five back copies of ROCKS AND MINERALS. They are so much what I think a good mineralogical magazine should be, that I intend never to be without a copy of it. I surely like it. Sgt. H. O. Collier, III

May 28, 1944. U. S. Marines

An Editor's Dream Comes True!

Editor R & M:

Thank you for your kind letter of June 17th. It made me feel so good that I went right out and got another subscriber for you. Enclose find $2. as payment for his dues and subscription.

Mike Almasi
Bremerton, Wash.

June 24, 1944.

A Plea From North Africa!

Editor R & M:

Will you please do me a favor and send me a six month subscription to ROCKS AND MINERALS to my address *here,* starting at once with the June issue? It has been 15 months since I saw a copy of the magazine and I miss it very much. My regular subscription will continue to my home address in Iowa.

Everything is going alright here with me—cannot kick much except for the very few chances for collecting. Sent home another box of fancy marble slabs last week and a few shell cameos from Naples—that is the extent of it lately.

Eldon Moore
U. S. Navy (in North Africa)

June 15, 1944.

JACK LUBBINGA

(OBITUARY NOTICE)

Jack Lubbinga, well known and prominent figure of early day Virgin Valley, Neveda, opal mining and an opal cutter, died in the Humboldt County General Hospital, Winnemucca, Nevada, where he had been a patient for the past 8 years because of paralysis. Mr. Lubbinga passed away during the first week in January, 1944, at the age of 84 years. He was born in Boonville, Mo.

Many opal gems he cut on his lapidary machine, powered by a foot-power sewing machine, are in the cabinets and gem caskets of collectors all over the U.S.A. as a reminder of his sojourn on earth.

To the cowboys, before the discovery of opals in Nevada, he was known as "Happy Jack", because of his genial nature; after the discovery of opals and because of his enthusiastic interest in these gems, he was nicknamed "Opal Jack".

One last fond wish was realized by him in his last year on earth when at his request he was released from the hospital to return to Denio, Oregon, to visit old friends. He was received most royally in Denio but his condition became worse and he was forced to return to the hospital at Winnemucca where he received his "summons to join the innumerable caravan who have gone on before". May he receive the Angels' welcome plaudit over there.

—Mark M. Foster.

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Whole No. 157

A HALF MILE MISTAKE

By HORACE W. SLOCUM

355 Charlotte Ave., Rock Hill, S. C.

This story has been in my system all too long now. For I had meant to write it nearly a year ago. And meant to write it far differently than it will here appear. Had planned to give all the facts and figures as they are set down in the old books. To quote passages, in order that the Reader might know just how far the Great Ones erred. But circumstance has ordained otherwise, so instead of lifting a paragraph from Kunz's *Gems and Precious Stones Of North America,* or transcribing a page from some volume of the *American Journal of Science,* I must now write those excerpts as I remember them and give you a footnote whereby to check the veracity of my statements.

The above incomplete and inconclusive methods are not at all to my liking, nor do they result from any lack of enquiry at numerous libraries. It is simply that the files of the *American Journal of Science* going back thru the 1880's, and Kunz's masterpiece on American Gems are not the easiest books to lay your hands on as you will soon learn if you ask for them at any but the largest libraries. I thought I had unearthed them in St. Louis, as the catalog listed just the volumes that I needed. But when I called for them it was only to find that they had been sent to the Bindery and I had to leave the city before they were returned. They might be found in Columbia, S. C., but Columbia is 80 miles away, which in this gasless day might as well be as far as the Moon. So as I stated before 'This story has been in my system all too long.' And references or no, it must now come out.

"On Harndon Hill within ¼ mile of the Stowe, Me., line and 1½ miles from Deer Hill, 2 miles from the New Hampshire border and village of North Chatham, topaz was found. In coarse granite on the summit of Harndon Hill within 50 square feet. Topaz is in pockets in Cleavelandite and sometimes surrounded by Cleavelandite." * * *[1]

So wrote George F. Kunz in the *American Journal of Science* as well as in his book on gem stones. And ever since those days every list of localities has copied his statements until Harndon Hill should be a well remembered name to any collector who studies the old places where unusual material was found.

Well, is topaz found on Harndon Hill? A long while ago I set out to find the answer to that question. Let us go a long time back to 1936.

We Prepare For The Trip

Parsons[3] and I looked at the map by lamp light that morning. The chill October air just before sunrise kept us in the house a few minutes after breakfast so we again checked over the map to see just how our trail led, and how far we would have to walk.

Harndon Hill lay a little southeast of Big Deer Hill. Still further to the southeast rose Lord's Hill, and directly to the south of Harndon, Pine Hill showed its softly rounded crown. Sure enough the town line between Stowe and Stoneham, Me., ran thru Harndon Hill just as the article stated. We congratulated ourselves on what we thought would be easy pick-

ings. We counted our chickens before they hatched.

But first there was a matter of some 70 miles to be driven. This was no hardship, for after driving some few miles the sun came up and showed us one of those crystal-clear October days when the maples and birches fling their scarlet and yellow garments at the bright blue bowl of the sky that stretches over them. I can't go back into the diary to recapture that trip. For it was made long before the diary was even thought of. Nor will I ever need a written word to bring it all back, for the beauty of that crisp October day is painted on memory's retina in bright and fadeless colors.

It was nine in the morning when we rattled across the bridge over Cold River and drove along the road that points directly at the Col between Big and Little Deer Hills. Points at the hills and deceives you by suddenly turning right just as you think you have a climb ahead, and just as suddenly loses itself in front of an old abandoned farm house. Well it's not quite lost, for a woods road continues on, but certainly one you would not care to drive over. So we left the car parked beside a mossy stone wall and continued on foot with knapsacks on our backs and hammers slung in our belts. With no more than two miles to walk we felt no urge to hurry. The topaz had been there all these many years. It would still be there waiting for us no matter how long we took to enjoy the cool quiet of the fall woods. We dwaddled at the tiny brook that gurgled its way across the road. Waited to watch a pair of small trout swin in circles over a bed of white sand and wondered whether fish as small as these could be preparing to spawn. Threw off our packs to kneel down and drink long gulps of cold water at the spring that rises in a little meadow. Then started to climb and when the height of land between Harndon and Pine Hills was reached we swung to the left thru the sparse undergrowth and soon came out in the meadows that cover the eastern side of Harndon Hill. There by the old cellar hole, beneath the great maples that shaded the house long years ago, we rested and listened to the far off tinkle of the cow bells from the further side of the pasture.

Again we climbed, this time thru Juniper and Pine slash, barking our shins and stubbing our toes over concealed boulders until finally when breath was short we came out on the bare ledges that form the summit of Harndon Hill.

On Harndon Hill—But No Sign of Pits

"One white opaque crystal of Topaz 12" in diameter was blasted out" ***[2] So wrote Mr. Kunz and we presumed that this must have meant a pit of some size had been made. Also a quantity of sharp-edged blasted rock should be in evidence. These would be the things to hunt for. Where we found them, there would be our locality. Well we hunted for pits. Then we hunted again, and returned to the highest point on the ledges to compare notes and have a smoke. Parsons had seen no pits, nor even any blasted rock. Neither had I. We started again and covered all the top of that mountain with no better results. It was puzzling. Quartz veins there were in abundance. And one greenish opaque beryl we chipped from the eastern brow of the hill. But topaz, or any other mineral with a cleavage, or pits, or rock broken in blasting we were never able to find.

Thus sadly and highly puzzled we retraced our steps thru the meadow and down the hills to the car where we started the long drive home.

"Topaz is found in Stoneham on Harndon Hill." The great Kunz wrote it. It stands in black and white in one of our country's greatest scientific journals. Who were we to dispute his findings and his writing even tho we could not, with all our hunting, locate the place from whence it came. And so we came home from Harndon Hill sorely puzzled and seriously doubting our abilities as discoverers of the old location. It formed a topic of conversation for the long ride home. We could not, of course, entertain any doubts as to the veracity of such an erudite gentleman as Mr. Kunz, and certainly it was not for us to question the learned writings found in that profound work, the *American Journal of Science*. So the

brunt of the whole failure must fall upon our shoulders. At least that is the way we felt about it at the time.

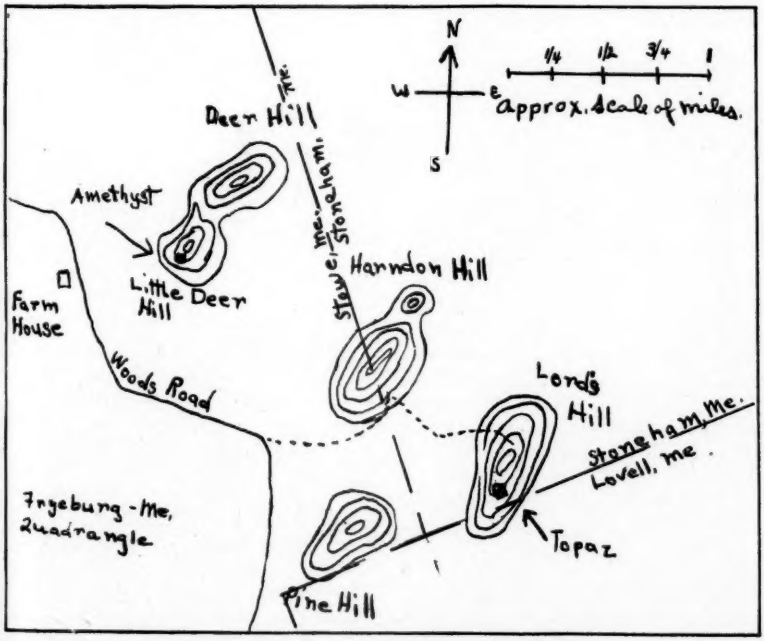
What Was Wrong With Our Search?

The further away we got from the Hill, however, and the longer time elapsed from our trip, the stronger the conviction grew upon us that possibly we had overlooked some nook or cranny along the ledges which would account for our not finding the topaz. And the more we turned the matter over in our minds the more convinced we became that another trip would be successful.

A change of fortune as well as a change of State halted any ideas I had about another trip to Harndon Hill that year. But the failure rankled in my mind and I would at odd times bring the matter out and study over it, and stare at the topographical map for long minutes as if to see the spot where the pits were blasted marked on it. Neither of which procedures afforded me any satisfaction.

It was several years later that the opportunity for a long vacation in Maine presented itself. At the time the topaz on Harndon Hill was almost forgotten. So Mrs. Slocum and I made off to Topsham, Me., to explore that long ridge of Spar which lies to the northeast of the town and which is pockmarked with quarries. What we found there has no place in this story so I will only say that after a pleasant profitable day we drifted over toward Paris, Me. This was as much for old times sake as for the minerals we might find, as I shall always get a thrill when I look at the old tourmaline workings on Mt. Mica, and think that so many years ago the Hammond boys trod these pastures probably with their pockets stuffed with glittering tourmaline crystals.

We were fortunate enough to find a camp on a low bluff overlooking Lake Pennesewassee near Norway, Me., which made a comfortable and enjoyable head-



Map showing Harndon Hill locality in Maine.

see page 376

quarters. From here we searched the vicinity from day to day with variable success.

One evening we decided to ride into Norway and call upon Mr. R. F. Bickford, a lapidary and collector who lived in this town and with whom we had a very slight acquaintance. Mr. Bickford probably knew more about the mineral localities in this part of the country than any one living at that time. He was, unfortunately, busy that evening so we had not the opportunity for as long a chat as we would have liked. Nor do I now remember what we talked about during the few minutes he could give me. But as I was leaving I turned to him and said, "Mr. Bickford I wonder if you can straighten me out on one thing. I have combed the top of Harndon Hill with a fine toothed comb and not one scrap of topaz can I find there. Kunz writes there are pits there and I couldn't find hide nor hair of them. Do you know anything about it?" As he closed the door he laughed and said, "Try Lord's Hill."

A New Clue

Try Lord's Hill—TRY LORD'S HILL! Why the book never mentioned Lord's Hill at all. Lord's Hill was a half mile southeast of Harndon. The Stowe-Stoneham town line didn't run thru Lord's Hill which was wholly in the town of Stoneham. Well doggone it we'd try it and see what we could find. The next morning we made tracks for No. Chatham, N. H., and took lodgings in a farmhouse there. As we had the afternoon ahead of us, we put it to good use with a trip to Deer Hill where we started to dig into the rubbish that filled the upper pit. Here we unearthed some of the milky quartz crystals so characteristic of this locality. These same are what I term reversed phantoms as the inside of the crystal is clear in this case and outside of this clear core is a milky covering 1/16" - 1/8" in thickness. Some pick and shovel work in the soil above the pits produced a small crystal of poor quality amethyst on the matrix, tho nothing to brag about, nor do I know anyone who has a specimen of Deer Hill amethyst that they are inclined to brag about. But then that is probably because I don't know anyone who has any amethyst from there.

The next morning bright and early we again made a start for Harndon Hill, for it was my intention to set my course for Lord's Hill from the pastures on the east side of Harndon. The morning was bright and warm and grew warmer and brighter as we climbed so that by the time we came out in the fields Mrs. Slocum felt that she had had enough hill climbing and decided to rest in the shade of the maples where Parsons and I had stopped on our first trip. In view of the fact that the terrain from here on was rough and trailless, I was quite gratified that she was willing to stop here tho hesitant about it, as there were cattle somewhere in the pasture and my wife had a phobia about these beasts which I heartily shared with her. All this because they have several times sent me flying over stone walls just two jumps ahead of a pair of wicked looking horns. But she declared she could no longer go on and knowing the rough country across which I must travel I was reluctant to urge her.

So assuring her I would be no longer than necessary I set off thru the close grown spruce thicket. This soon gave way to swamp thru the middle of which ran a small brook. Then came more swamp and at last I started to climb thru the thick underbrush that covers the lower slope of Lord' Hill.

Lord's Hill—The Right Locality!

After much hot rough climbing I came out on the northwestern brow of the hill and was grateful that at this height the underbrush had thinned considerably. Still there were no trails, no paths, and the top of the hill was perhaps one-eighth mile in length with very little ledge showing. I traveled around the brow of the hill as best I might, making an occasional trip up and across the top. Worked from northwest to north to northest to east. No pits—no sign of blasted rock, not even any good signs of pegmatite. I grew discouraged, es-

pecially as I had now been away so long, and visions of my wife being trampled by hordes of wild cattle continually crossed my mind. So thinking, 'Well I'll only look a few minutes longer,' I moved around to the south end of the hill. There in a small clearing on the brow of the hill were the pits I had been searching for so long!!!

Haste was on me, however, so frantically I dug here and poked there into one or another piles of the discarded material. There was no sign of anything except spar and milky quartz, both massive. Beneath one dirt-covered pile, however, I raked out some material that at first glance appeared to be quartz except that it was heavier than quartz and had a decided cleavage. It was opaque and certainly made no very interesting specimen. This might be topaz. I couldn't be certain. Anyway I was in a hurry so hastily stuffing a few pieces in my pockets I made tracks for the further side of the valley and the huge maple trees on Harndon Hill. I might have spared myself the rush as my wife was half asleep in the cool shade of the trees and had not seen nor heard any cattle.

So here after all was the place whence the topaz came! A half-mile as the crow flies from where the book placed it and on a hill of an entirely different name. Tests on the material I carried away (specific gravity and hardness) proved that the mineral was truly topaz, so the matter was finally settled.

Or was it? For a year or more I pondered and turned over in my mind the questions that occurred to me in relation to the place. Very regretful I was that I had had no more time to explore around and see if some other minerals might be found. The more I thought about it all the more determined I became to revisit the place when ever chance offered the opportunity.

Lord's Hill Revisted

That opportunity came a year later. This time Parsons and his younger son accompanied me. And this time as before, we found plenty of massive topaz. But in addition we found pieces of bright blue beryl and a crystal of apatite. The best prized material of all, tho, were the specimens of curved mica we carried away. Silvery in color and of a decided spherical shape, they were truly worth the long walk and the 140 mile drive. I wish even now we had done more exploration on that hilltop. Some large opaque crystals of topaz had come from these pits. We saw no crystallized topaz at all but who knows what a more thoro search would discover somewhere on that hilltop. I suppose the original finders looked it over pretty sharply. But they have been known to make mistakes. Yes, half mile ones!

So the questions still occur to me. Why did they write Harndon Hill when the pits were on Lord's Hill? Did they want to prevent others from sharing their finds? Were they mistaken in the name of the hill? Was Lord's Hill at any time called Harndon? If so was the town line changed? So many questions and no answers at all. Probably Mr. Bickford could tell me. But I never got back to Norway. Very likely never will. So if some kind person had any *facts* bearing on the case, spare me theories, I have too many of those now, will he please come forward with them and settle once and for all the question of the Half Mile Mistake.

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1. & 2. *American Journal of Science* III, Vol. 25, page 161, Feb. 1883. *American Journal of Science*, Vol. 27, page 212, Mar. 1884. *American Journal of Science*, III, Vol. 36, page 222, Sept. 1888.
3. Ralph L. Parsons, East Rochester, N. H.

Peru Completes Link in Highway

Bogota, Colombia—Dr. Arenas Loayza, Peruvian Ambassador here, has announced that Peru has completed her section of the Pan-American Highway. The Ambassador added that the road linking Bolivia to the highway also has been completed.

THE CAT-EYE HUNTER

By SGT. H. O. COLLIER, III
U. S. Marines

He was once a confirmed rock-hound . . . a hunter and enthusiast of all rare rocks, minerals, crystals, geodes, and gem stones. He is now a Marine who, with others, is guarding a vitally important coral islet out in the Pacific.

There are no mineral or geologic formations on this tiny island other than the calcium and limestone formations of shells and coral reef. There are no rocks. There are no mineral formations, no gem stones, as he quite soon discovered.

And the Japs, quite rightfully, seem afraid of the desert-like island. Or maybe it is the Marines whom they have learned to respect. Anyway, they leave the place strictly alone. It is taboo.

The yen for searching out gem stones and mineral formations has to be satisfied; once a rock-hound always a rock-hound. So what does our Marine rock-hound do in a land where he quickly ascertains there are no rocks?

It is a nice clear day and he has a few hours off. He walks alone on the beach, alone in his misery.

He has never thought about the gold and silver in the teeth of his sleeping buddies. That kind holds no interest. What he wants is to explore—to experience the thrill which comes with the finding of some rare specimens. It is a habit. A craving, like that for opium.

The beach seems to be the only thing worth exploring. The beach is always new, is ever changing. Strangely interesting shells and flotsam wash up on the changing tides. Our Marine is not satisfied though. He can find no lasting interest in shells.

He Learns About Cat-eyes

Then one day when he has temporarily escaped the monotonous tedium of war practice, of work and instruction on weapons and instruments, he meets another Marine searching alone on the beach with downcast eyes. A Marine whom he sees, with a thrill running up over him, must be another rock-hound at least if not in fact.

"What are you hunting for?" he asks eagerly.

"Cat-eyes," explains the new Marine, looking up. "They wash up on the beach."

He pulls a large ring from his finger and shows it to our rock-hound. It has a large stone set in it. A stone as he has never seen before. It is a dark blue in the center, fading out to an ivory white on the edges—a radiating, rainbow-like structure with a sheen and glisten more pronounced, surely, than any emerald, amethyst, or opal.

"Boy!" our Marine breathes, his eyes lighting up in admiration.

A new interest is dawning like a mighty summer sun in him, and he listens with bated breath.

The new Marine is explaining that these magnifying-glass-shaped cat-eyes, ranging in size from half a pea to half a dollar, come from fist-size, snail-like shells. That the cat-eyes grow from a muscular tissue on the snail's head, and that when the snail pulls in his head the hard, round cat-eye effectively blocks all entranceway.

The new Marine goes on to explain that the cat-eyes live and grow out in deeper water around the reefs. "When they die or get broken the cat-eyes in them wash up on the beach. But you have to go out on the reef for live ones if you want good ones."

A rock-hound is a naturally born explorer; it does not take our Marine long to discover that the coral reefs are sharp and jagged, with many red and black pin cushion-like animals living on them.

Thereafter he wears either tennis shoes or an old leather pair with portholes cut in them for escaping water.

He now wears a knife strapped to his tan swimming trunks. It is more of a metal arming against sharks, though

three small octopuses have already fallen prey to it. A diving mask is perched atop his head. Underwater it encloses his eyes and nose. It is the only thing he has found which enables him to see clearly in the salty sea water.

A New World of Exploration For Him

A new world of exploration has opened for him, and he wastes no time standing in the doorway. It is a world both interesting and thrilling. There are sharks, huge sting-rays, and octopuses to keep a sharp look-out for, and a whole new world of vividly colored fish, brightly hued coral, sea urchins, and strange forms of plant and animal life.

He stands on the reef and takes several deep breaths, storing up oxygen. He is ready to go on a short journey of exploration in his new world.

He expels most of his breath as his body enters the water, and he drifts downward along the coral wall, studying it closely through the window of his diving mask.

His arms are stretched out ahead of him in continuation of his slow dive when the current picks him up. He has learned to drift along slowly, to watch where he is going and where he steps and to stay out of white, foamy water, or at least to keep hands and feet ahead of him whenever the current does drag him in and out of the surf.

He turns his head from side to side, studying the white, yellow, and red coral heads. Each one is composed of a branching coral structure resembling many clumps of petrified bushes.

Sea weeds, tall sea grasses and ferns sway gracefully in the current as if stirred by some strange rythmic breeze. Tiny yellow and black striped fish stop to stare at him. Others—red, yellow, green, pale white, and black—cruise slowly along in the current—a slow motion paradise for the spear fisherman.

There is a startling nibble on his ankle. He looks quickly down to see a school of tiny red and yellow fish swimming about his legs. He tries to catch one in his hands, but is much too slow.

The current slowly sweeps him up one of the many channels cutting through the reef into the lagoon, and he arches his body and aquaplanes downward. There is exhilaration here, the exhilaration of a swallow's soaring in a breeze. And he glories in the good solid feel of the water around his chest.

He levels off just above the coral-sandy ravine floor. He has learned that live cat-eye shells are to be found in the crevices lining just such channel floors and walls. Nevertheless, he also carefully searches over the coral gravel, for he knows that sea eels often find the cat-eye shells and crush them in their powerful jaws, thus liberating the cat-eyes which drift upward along the stream channels.

Yes, the currents and bits of coral drift uphill in this strange underwater land!

Our rock-hound begins swimming underwater, for the current has lost its force in the rough channel and is dying out.

He Finds His First Cat-eye

He suddenly grins to himself. He has spied a tell-tale white glitter on the corally floor just ahead where the current has died out enough to drop cat-eyes and let them rest.

He hurriedly swims upward, breaks surface, and clutches gingerly at a coral-head. No use taking a chance on cut fingers and the resulting b'ood which might attract a cruising shark.

He hastily blows out the tiny amount of trapped air within him and begins taking long deep breaths, packing his lungs full. Seeped in sea water trickles out of his diving mask as he lifts it from his face. He washes off the fog which has collected on its window. And then, with one last long breath, he half dives half sinks back into the channel.

There are five cat-eyes on the bottom, two of which are broken. He quickly scoops the three good ones up in his hand, and turns to go. He stops suddenly when he sees a large, vividly black and red fish ogling him from a distance of about five feet. The fish's gills work

slowly as it stares at this strange intruder of its underwater domain. Our rock hound takes one slow-motion underwater step forward, wondering just how curious the fish is. He takes another. And the fish, with one eye-deceiving flick of its tail, is gone. It is now our rock-hound's turn to stare wonderingly.

He again turns to go, and then spies a live cat-eye shell which has lodged in a side-wall crevice. His hand closes over it exultantly, and he starts up towards the surface, anxious to examine it more closely.

He pulls himself up onto the coral and pushes his mask upwards on top of his head. The cat-eye is pretty, alright. So pretty that he catches his breath. Then he groans inwardly—it has a tiny crack running across one side. Perhaps he can polish it out. He is not sure. He only knows that a stone which could be unusually beautiful has a flaw in it. Oh, well, better luck next time!—this, the motto of all true rock-hounds.

The large sea snail inside the shell has become curious at finding itself out of the water and is now poking its head out, removing the hard cat-eye door from the entrance to its shell—a case similar to a turtle's sticking its head out, or of curiosity killing the cat.

Our rock-hound quickly pulls his knife from its sheath and pushes its blade under the edge of the cat-eye. He then cuts the cat-eye loose from its connecting muscular tissue or gristle. He throws the huge snail out into deep water hoping it will live to grow another cat-eye for him.

Such is the life of the cat-eye hunter!

Some Properties of the Cat-eye

A cat-eye is about 5 in hardness, as near as the rock-hound can tell. They vary considerably, depending on the length of time they have been out of the water. They are quite tough, though not hard, and are not easily damaged (cracked) by a drop on a concrete pavement.

The prettiest cat-eyes ranged from a dark blue, green, or black center, fading out through intermediate shades of blue-green, red, yellow, and white on the edges. The very finest stones are of a deep color, all over, though there are many intermediate shadings which when properly polished and matched will find no peer in the realm of gems. One matched necklace, which the writer is making from seven pure white cat-eyes, will, he believes, have an almost unearthly beautiful and pearly sheen when finished—he can think of no more beautiful necklace to go with a blue evening gown.

Best Cat-eyes Come From the Fiji, Samoa, Johnson, and Midway Islands

The best cat-eyes come from the Fiji Islands, Samoa Islands, and Johnson Island, though some pretty ones can also be found around the coral of Midway and other islets and atolls of the Pacific Ocean.

Cutting and Polishing Cat-eyes

We shined our cat-eyes by hand, using emery cloth and sandpaper to grind them down and then polished them with crocus cloth and felt.

The way to do the job commercially would be with a lapidary wheel. However, there is an amount of water in a cat-eye and great care must be taken that no part of it becomes too warm in cutting or polishing or it will develope numerous small cracks which greatly detract from its beauty.

The writer has found that it is best to store cat-eyes in a dark, dry place for several months before working on them. Also in curing them, he found that if they are soaked one month in clear linseed oil, after cutting them, they would have a much greater sheen.

The writer believes that the cutting and polishing of cat-eyes would develope an absorbing interest in any lapidary. Each cat-eye is different from all others. And yet, as individuals, they all have a certain internal corkscrew-like pattern that once learned can be used in their cutting.

The writer has sold cat-eyes for use in rings, earrings, necklaces, bracelets, and clasp pins. They can be worked into innumerable designs for pins, as, for instances, the heart of a flower with gold or silver petals around it.

(*Continued on page* 246)

CHICAGO NATURAL HISTORY MUSEUM'S EXPEDITION TO PARICUTIN, MEXICO

Chicago, Ill., June 8, 1944. Taking advantage of what he describes as only "the seventh opportunity in all human history to make scientific observations on the development of a newly occurred volcano," with the comment that at the time of all other occurrences of such a phenomenon scientists "missed the boat," Dr. Paul O. McGrew of the geology staff at the Chicago Natural History Museum left for Mexico today.

McGrew's destination is El Paricutin, the new volcano in the state of Michoacan, born Feb. 20, 1943, when it suddenly erupted in the middle of a corn field, much to the amazement of the farmers. Since that time it has grown from a mere smoking hole in the ground to a volcanic cone rising 1,200 feet above the ground surface, belching with explosive violence tremendous quantities of volcanic bombs, cinders and ash, and clouds of gases.

Only the uniqueness of this phenomenon, presenting an imperative opportunity which if now missed might be lost forever, induced the museum authorities to make an exception to the policy of "no expeditions for the duration" adopted immediately after Pearl Harbor, it was emphasized today by Orr Goodson, acting director. Funds for conduct of the expedition were made available by a donor who insists on remaining anonymous, the museum official added.

Dr. McGrew will make comprehensive geological observations, and will collect an extensive representation of the numerous minerals and other products of Volcan Paricutin for study and for museum exhibition. Later, the museum press will publish the results of his researches.

"El Paricutin is the first volcano of which science has the opportunity of recording the complete history from the time of its first occurrence," said Dr. McGrew. "It is unfortunate that El Paricutin chose war time to make its costly but magnificent and interesting appearance. In peace time such a geologically important phenomenon would attract geologists from all over the world. Mother Nature, however, will not time her manifestations to accord with human convenience.

"It is important, therefore, that as many geologists as possible visit this fiery monster now, since much data would be lost if we waited until the volcano finally becomes extinct and disintegration of the cone begins. In 1759 a volcano known as El Jurillo grew about 50 miles from the site of El Paricutin, but geologists at that time failed to observe its eruption.

"With a prologue of numerous earthquakes in the immediate vicinity, the present volcano made its first real signs of existence on Feb. 20, 1943, when farmers noticed smoke rising from a hole in a corn field. Within a short time a violent eruption of glowing gases, cinders and ash were hurled from the conduit. A volcanic cone formed by this debris grew rapidly and by April of this year the volcano had created a new mountain towering more than 1,200 feet above the surface of the cornfield. The cone and its lava flows now cover an area of more than three square miles. Heavy falls of volcanic ash and cinders have damaged farm lands as much as 20 miles away, and fine volcanic ash has fallen as far away as Mexico City, more than 200 miles distant. Most of our information to date concerning the volcano has been received from the distinguished Mexican geologist, Ezequiel Ordonez, who has been observing its growth from the beginning."

Editor's Note: At least two members of the Rocks and Minerals Association, Dr. F. H. Pough, of the American Museum of Natural History, New York City, and Mr. Paul E. Killinger, of Buffalo, N. Y., have visited the volcano. Mr. Killinger's observations have appeared in the Sept., Oct., Nov., 1943, and Jan., 1944, issues of ROCKS AND MINERALS.

NEW ENGLAND NOTES

Conducted by Rudolf C. B. Bartsch
36 Harrison St., Brookline, Mass.

The restricted use of automobiles has of course made it necessary, for the still active collector, to give more detailed attention to local collecting places. The results of this localized work, particularly in the greater Boston area, have been rather astounding and I shall give a few details of new finds in two quarries in the greater Boston area.

South Quincy, Mass.

First the quarry operated by the Old Colony Crushed Stone Co., at South Quincy, Mass. This is a large quarry, having been in continuous operation for about 25 years. Nothing of any great interest has ever been reported. A recent visit there brought to light some interesting material. An unusual platy form of calcite is quite abundant. It is rich in iron, closely approaching ankerite. Some of the plates are quite large, more or less curved, and have a brilliant pearly luster, and are of a pure white and rarely a light pinkish color. In one section of the quarry this calcite has been completely altered to limonite (yellow ocher) which occurs in masses 2 to 3 inches thick. This is excellent specimen material but rather difficult to bring back in good shape.

Quartz crystals are to be found in cavities and some few are distinctly greenish while others are a pale blue. The green color is probably due to enclosed aegirite and the bluish color to enclosed riebeckite.

The most interesting find of all was crocidolite, the beautiful silky blue asbestus. This asbestus was first found some 25 years ago at the Fallon Quarry and described by Dr. Charles Palache, of Harvard University. Since then, none has been found (at least not reported) although collectors have searched diligently for it. The blue color and soft silky luster make the specimens very attractive.

The owners of this quarry are very generous and permit collecting which is greatly appreciated during these restricted times.

Woburn, Mass.

The other quarry visited was the Blueberry Mountain Quarry, at Woburn, Mass. This locality is well known and extensive collecting has been carried on here for many years. It is noted for the large amount of the rather rare mineral babingtonite. The crystals are rather small as a rule but are brilliant and many fine and interesting specimens have been secured. It has been thought that the size of the crystals was due to the narrowness of the veins in which most of the babingtonite occurs. However, the frost last winter brought down an enormous rock fall and in it was the remains of a large cavity, the first noted since the beginning of quarry operations.

This material brought to light some new and interesting specimens. The feldspar fragments occur as partially dissolved angular fragments cemented together with calcite and babingtonite. Here the babingtonite had plenty of room and the material was abundant and still the usual small crystals. Until this time quartz and calcite crystals were practically unknown except as scarce micro-crystals. Crystals of both these minerals were secured up to one inch in length. The quartz crystals occur in parallel growths and many have groups of babingtonite crystals attached to them.

Chalcodite in greenish and golden flakes have been found for the first time and this makes interesting addition to the list of minerals from this locality.

The so-called graphic-granite is also another new material. The quartz occurs in the salmon colored feldspar. The quartz also has an added interest and a new one of occurring in groups of parallel crystals, doubly terminated. The feldspar in places has been leached away and the crystals occur on the surfaces of the specimens and where there is a corner

the terminations are protruding out on two sides from the same crystals.

Usually the pegmatites at this locality have pyrite, sphene, and allanite scattered through them but the material from this cavity showed a complete absence of any of these minerals.

Newton - Brookline, Mass.

Another find made a year ago is also local and noteworthy. On the border line between Newton and Brookline, a development project necessitated considerable blasting for the various pipe lines and the writer was fortunate in happening on the results of this blasting. Piedmontite of fine quality was quite plentiful in a dull deep rose color. Some crystals were also secured and they have been turned over to Dr. Palache for measurement and description. The crystals are transparent, deep red, and are of the epidote type. The material was quite plentiful and where it occurred the epidote was practically non-existent. Fifty feet away the epidote was plentiful but no piedmontite. This is the first record of piedmontite in Massachusetts and the second in the United States, the other being in Pennsylvania.

SONNET

These minaretted minerals, form-true,
Fine jewel-tipped in warm transparency
Of amethyst or amber symphony,
The silver cubes, the fluffy beads of blue,
And these whose many sloping faces drew
The balanced figures of geometry,
And these with tiny tendrils velvity,
Inevitable patterns building, grew
Unmindful of intelligent design;
But we who know the earth, her treasures take
Who analyze and measure, plot and scan,
Are witness to their miracle of line;
And though we cannot see what form we make,
We know we move in God's eternal plan.

—Ralph Dighton Jackson

In gratitude to Mr. and Mrs. Rudolf C. B. Bartsch for sharing Earth's Treasures.
June 8, 1944.

Aleutian Volcano Erupts; Kills Soldier

ADAK.—Trapped under a flow of molten lava, an enlisted man was killed during hasty evacuation of an army installation in the Aleutians when Mount Cleveland volcano burst into full eruption, the 11th Army Air Force announced June 25.

His fellow soldiers, advancing under a searing rain and through blinding and choking sulphurous fumes, followed his footsteps to a point covered by the lava river, which by then had poured down the mountain for a distance of three miles.

Army personnel stationed on Chuginadak Island, in the Islands of the Four Mountains group, reported "rocks as huge as automobiles" belched from the crater and rained over the entire island area. —*The Alaskan Weekly*, 7/7/44

Mt. Cleveland, 8,150 ft. high, is on Chuginadak Island, a small island in the Aleutian group which extends west of the Alaskan Peninsula into the Pacific Ocean. Chuginadak, a volcanic island, is about 300 miles southwest of the Peninsula.

Mt. Cleveland was an inactive volcano since 1838. It began its present eruption on June 10, 1944, and so heavy was this eruption that the island had to be evacuated.

BIBLIOGRAPHICAL NOTES

Report of the Committee on the Measurement of Geologic Time, 1942-1943: Alfred C. Lane, Chairman and John Putnam Marble, Vice-Chairman.

Presented at the Annual Meeting of the Division of Geology and Geography, National Research Council, May 1, 1943.

The report contains a Summary Report of the Committee; Annotated Bibliography of Papers Related to Geologic Time, prepared by John Putnam Marble; Stratigraphically Dated Lavas for Radioactive Age Determination, by Carl O. Dunbar; Supplementary Report of the Chairman, by Alfred C. Lane; Reports from Workers Outside the U.S.A., compiled by A. C. Lane and J. P. Marble; Report of the Vice-Chairman, by John Putnam Marble.

Issued by the National Research Council, 2101 Constitution Ave., Washington, D.C., December, 1943, 40 pages. Price 50 cents.

Haiti Prepares For Future as Producer of Minerals

Haiti, now expanding production of rubber and sisal on a considerable scale to meet United Nations needs, looks forward to further diversification of production through development of mineral deposits.

This is indicated in the recent creation by the Government of Haiti of a Bureau of Mines. The bureau will have charge of the preparation of mining legislation and enforcement of mining regulations.

Haiti's mineral resources include bauxite and small manganese deposits. A United States concern has obtained a concession for working the bauxite deposits, probably for post-war development. In addition, explorations of Haiti's oil-producing possibilities have been reported.

Haiti, smallest of the American republics in territory, has been an exporter mainly of such tropical-grown agricultural products as coffee, sugar, and bananas. Before the war it also had become a substantial grower of sisal for the United States market.

Now Haiti is increasing production of strategic materials to help meet United Nations needs for rubber, fibers, essential oils and insecticides. This trend toward diversified production provides new sources of foreign exchange and lessens Haiti's dependence upon outside markets for such products as coffee.

Haitian bauxite ores are described as having an unusually low content of silica, making them desirable for future development for exports to the United States.

The negro republic of Haiti occupies the western portion of the island of Haiti, the second largest island in the West Indies. It has large mineral resources which are undeveloped. Its mountain streams yielded considerable placer gold in the days of its Spanish conquest.

MAGNETITE SAND OCCURRENCE IN MARTINIQUE

Grande Anse is a small seaport on the northeast coast of Martinique, a French Island in the West Indies. The village is situated in an immense basin of basalt. The black rock is everywhere in evidence —bare crags and huge boulders greet one on every side. Although the basin is very narrow, it received its name Grande Anse (Great Creek) because no less than five streams water it.

If the rocks surrounding Grande Anse are black, the color of the sands of the ocean beach is even more so—it is an intense black. About 90% of this charcoal-black sand is magnetite which is many inches deep and covers a large area. Many years ago a company was formed to mine the sand from which an excellent grade of iron was made but after a few years operation the project was abandoned.

The Cat-eye Hunter

(*Continued from page* 242)

Cat-eye Is Not a Mineral

The cat-eye was once part of a living organism, like a pearl. It not only has great natural beauty and sheen—it has character. This character or virtue is developed as one works on it. Each one is individual. And the lapidary who works with them will become so engrossed as to be partial. He will find some with which he will not part.

Strange and interesting profession, the hunting for, collecting, and polishing of cat-eyes!

Agates From Alpine, Texas

Very beautiful specimens of banded agate varying from pale grayish blue to brownish, also red and white, occur around Alpine, (a small village of 3,500 population), in northwestern Brewster County, Texas. Dark red masses of jasper form the matrix for some of the agates.

These agates take a beautiful polish and a large number of them have been collected.

Brewster County, whose southern border is the Rio Grande, is in the southwestern part of Texas.

WITH OUR DEALERS

Gem materials of quality from the greatest variety we have ever offered—is featured this month by Warner & Grieger, of Pasadena, Calif.

Schortmann's Minerals, of Easthampton, Mass., are again offering choice crystallized minerals that will appeal to advanced collectors.

Vacation Special—stay at home this summer and polish cabochons and slabs supplied by us—is the good advise offered collectors by the West Coast Mineral Co., of La Habra, Calif.

Until he gets his stock arranged in his new store, Chas. O. Fernquist, of Spokane, Wash., is offering good books on minerals for collectors. We all need books—how about you?

Note the summer offerings of A. J. Alessi, of Lombard, Ill., in this issue. He will be glad to have your order for any item listed. Send it today!

The Ozark Biological Laboratories, of Hot Springs National Park, Ark., are featuring two rare minerals—taeniolite and dickite. Have you these two in your collection?

Robert Roots, of Denver, Colo., who has been a collector for many years, has branched out as a dealer. His first ad appears in this issue.

In the advertisements of Colonel Fain White King, of Wickliffe, Ky., please note that all orders sent him should be at least $5.00.

C. L. Brock, Manager of the American Mineral Exchange, Houstan, Tex., spent two weeks in Mexico (in July), collecting minerals for his stock.

The H. E. Powell Co., of Little Rock, Ark., is featuring a Special Vacation Offer. Of course you will want to know what it is so look it up and ORDER!

The only known American occurrence of weinschenkite is in Virginia, and Ward's, of Rochester, N. Y., have a nice stock of it. Why say more?

Frank Duncan and Daughter, of Terlingua, Texas, are offering a set of four Texas fluorescent and phosphorescent calcites—they are nice specimens, too!

Floyd R. Faux, the well-known collector of Bethlehem, Penn., has opened up the Eastern Mineral Exchange. Our best wishes are extended to him. His ad features some interesting minerals of his large stock.

Those of our readers who subscribe for W. Scott Lewis' *Mineral Bulletin* must have read with much interest the editorial in the June, 1944, issue. "Man the Upsetter" is one of the finest editorials we have ever read—we recommend it to all good Americans!

Western Mineral Exchange, of Seattle, Wash., announce the purchase of four outstanding mineral collections and stocks; this includes the stocks of two prominent western dealers, R. W. Wilke and John Esselink.

Large Quartz Crystal Found In Colorado

What Denver mineralogists say is the largest Colorado mineral specimen of its kind on record is a forty-four-pound quartz crystal found recently in the Devil's Head area, southwest of Denver. The finders are Mr. and Mrs. Louis H. Binderup of 1023 West Eleventh avenue, Denver, according to Harvey L. Markman, curator of geology at the Colorado Museum of Natural History and vice president of the Colorado Mineral Society.

The big specimen, a single, well-formed crystal of good quality, is nineteen inches long. Quartz crystals are found frequently in the Devil's Head area, and have been discovered elsewhere in the state since pioneer times, but none as large as the Binderup find is on record at the museum or in the society's files, Markman said.

Large quartz crystals of optical and electrical quality are in high demand now as raw material for the precision-cut quartz wafers used in army and navy radio sets and other electronic devices. The bulk of the commercial supply comes from Brazil.

Only pure crystal of perfect optical structure can be used. Because of its size, the Binderup find will be kept as a collector's specimen. The Colorado Mineral Society is seeking authentic records of large quartz crystals found in the state.

—Denver Post, June 30, 1944

EDITOR'S NOTE: Mr. Binderup is a member of the Rocks and Minerals Association.

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War priorities on many materials still prevent us from manufacturing lapidary equipment, but we do have available a good stock of the following supplies for the lapidary shop:

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Minimum arbor hole	1/2"	1/2"	5/8"	3/4"
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